

### CLAIMS

1. Method of mounting a retaining ring (21) on a rotating electric starter shaft (17), comprising a starter drive assembly (10) that includes a self-disengaging coupling device (12) acting between the bushing (18) and the pinion (11), the bushing (18) and the shaft (17) having splines (15, 16) that cooperate, and which shaft has a first rear stop (21) and a second front stop (22) spaced apart on the shaft to define the course along which the starter drive assembly (10) slides between the rest and working positions, said first rear stop being formed by said elastic retaining ring (21) inserted into an annular positioning groove (23) of the shaft, which method is characterized in that:

- in a first step the retaining ring (21) is mounted on an axial segment (27) of shaft in an accessible mounting area between the groove (23) and the splines (15),
- and in a second step, the starter drive assembly (10) is moved axially toward the rest position so as to move the retaining ring (21) along the segment of shaft (27) to the positioning groove (23), which is made in a service area with no radial access.

2. Mounting method according to claim 1, characterized in that the service area for seating the retaining ring (21) is disposed beneath a protrusion (26) of the speed reducer (13).

3. Mounting method according to claim 1, characterized in that a shaft segment (27) with a cross section that increases toward the positioning groove (23) is used.

4. Electric starter for motor vehicle equipped with a starter drive assembly (10) comprising a bushing (18), a pinion (11) and a self-disengaging coupling device (12) between the bushing (18) and the pinion (11), which shaft has a first rear stop (21) and a second front stop (22) spaced apart on the shaft to define the course along which the starter drive assembly (10) slides between the rest and working positions, said first rear stop being formed by said elastic retaining ring (21) inserted into an annular positioning groove (23) of the shaft, characterized in that the positioning groove (23) is placed in a private service area with radial access, and below a protrusion (26) from the speed reducer (13) enclosed by the housing (50) of the electric motor.

5. Electric starter according to claim 4, characterized in that the positioning groove (23) has a front face (28) intended to axially block the retaining ring (21) in the service area.

6. Electric starter according to claim 5, characterized in that the positioning groove (23) is delimited opposite the front face (28) by an annular stop face (29), the width of which is greater than that of the front face (28).

7. Electric starter according to claim 6, characterized in that the axial length of the groove (23) separating the front face (28) from the stop face (29) is selected in order to seat one or more elastic retaining rings (21).

8. Electric starter according to claim 6 or 7, characterized in that the positioning groove (23) is axially separated from the splines (15) of the shaft (17) of the starter drive assembly by a conically shaped segment (27) of shaft, the diameter (D1) of the side of the splines (15) being less than the diameter (D2) near the front face (28) of said groove.

9. Electric starter according to claim 4, characterized in that the self-disengaging coupling device (12) consists of a freewheel.